

ABSTRACT OF THE DISCLOSURE

The present invention is characterized by including an electrode formed on surface of a semiconductor substrate, wherein said electrode includes a barrier layer consisting of amorphous or microcrystal

5 expressed by the following expression:



M1: Au, Pt, Ir, Pd, Os, Re, Rh, Tu, Cu, Co, Fe, Ni, V, Cr

M2: Ta, Ti, Zr, Hf, W, Y, Mo, Nb.